nights occur in the course of the two winters in which the formation of arches of the aurora is noticed and their direction recorded; of these, *ten* are to the *west*, having their centres rather to the southward of west, the arches extending from N.W. to S.S.E. and S.E.; *seven* are to the *east*, or more precisely to the southward of east, the arches extending from N.E. to S.E. and S.W. Of the five others, *four* are said to be from east to west across the zenith, and cannot therefore be classed with either of the preceding, and *one* is noticed generally as being to the north. The facts here recorded appear to afford an evidence of the same nature as those mentioned by M. Erman, as far as regards there being two centres of the phænomena. In respect to the relative brilliancy of the eastern and western aurora, nothing very decided can be inferred from the register. If, as M. Erman supposes, that they may be referred respectively to "les deux foyers magnétiques de l'hemisphère boréal," it is proper to notice that the position of Alten is nearly midway between those localities.

There can be no doubt that the frequent appearance of the aurora, and the peculiarities of the phænomena observed there, render it a most desirable quarter for a magnetical and meteorological observatory.

EDWARD SABINE.
W. H. SYKES.

2. "Second Letter on the Electrolysis of Secondary Compounds, addressed to Michael Faraday, Esq., D.C.L., F.R.S., &c." By J. Frederic Daniell, Esq., For. Sec. R.S., Professor of Chemistry in King's College, London.

The author, in this letter, prosecutes the inquiry he had commenced in the former one, into the mode in which the chemical elements group themselves together to constitute *radicles*, or proximate principles. He considers his experiments as establishing the principle that, considered as electrolytes, the inorganic oxy-acid salts must be regarded as compounds of metals, or of that extraordinary compound of nitrogen and four equivalents of hydrogen to which Berzelius has given the name of *ammonium*, and compound anions, chlorine, iodine, &c., of the Haloide salts; and as showing that this evidence goes far to establish experimentally the hypothesis originally brought forward by Davy, of the general analogy in the constitution of all salts, whether derived from oxy-acids or hydro-acids. Some remarks are made on the subject of nomenclature, and the rest of the paper is occupied with the details of the experiments, all bearing on the important subject which he has undertaken to investigate.

May 28, 1840.

FRANCIS BAILY, Esq., V.P., in the Chair.

The ballot for the Right Rev. the Lord Bishop of Norwich was deferred until the next meeting of the Society, there not being a sufficient number of Fellows present.